**Amendments to the Claims**

1. (CURRENTLY AMENDED) Arrangement on a semiconductor chip for calibrating a temperature setting curve having

- a signal generation unit (2) for providing a first signal ($I_{ptat1}$, $V_{ptat1}$, $f_{ptat1}$), which is proportional to the actual temperature $T_1$ of the chip, whereby a signal offset ($I_{vir1}$, $V_{vir1}$, $f_{vir1}$) is creatable by the signal generation unit (2), which is combined with the first signal ($I_{ptat1}$, $V_{ptat1}$, $f_{ptan}$) defining a second signal ($I_{ptatZ}$, $V_{ptatZ}$, $f_{ptatZ}$);
- a signal extraction unit (3) receiving the first signal ($I_{ptan}$, $V_{ptat1}$, $f_{ptan}$) and the second signal ($I_{ptatZ}$, $V_{ptatZ}$, $f_{ptatZ}$) for calculating a first temperature point ($T_1$) based on the first signal ($I_{ptat1}$, $V_{ptat1}$, $f_{ptan}$) and a second temperature point ($T_z$) based on the second signal ($I_{ptatz}$, $V_{ptatZ}$, $f_{ptatZ}$).

2. (CURRENTLY AMENDED) Arrangement as claimed in claim 1, whereby the first signal ($I_{ptat1}$, $V_{ptat1}$, $f_{ptan}$), which is proportional to the actual temperature ($T_1$) of the chip, is a current ($I_{ptan}$), a voltage ($V_{ptat1}$) or a frequency ($f_{ptat1}$).

3. (CURRENTLY AMENDED) Arrangement as claimed in claim 1, whereby the first signal ($I_{ptat1}$, $V_{ptat1}$, $f_{ptat1}$) and the second signal ($I_{ptatZ}$, $V_{ptatZ}$, $f_{platZ}$) are convertible into digital signals, whereby the temperature extraction unit (3) calculates the first and second temperature points ($T_1$, $T_z$) for calibrating the temperature setting curve.

4. (CURRENTLY AMENDED) Method for calibrating a temperature setting curve of a temperature sensor arrangement on a semiconductor chip, the method comprising:

- reading a first signal ($I_{ptat1}$, $V_{ptat1}$, $4_{ptat1}$), which is proportional to the actual temperature ($T_1$) of the chip
- generating a signal offset ($I_{vir1}$, $V_{vir1}$, $f_{vir1}$), which is combined with the first signal ($I_{ptat1}$, $V_{ptat1}$, $f_{ptat1}$) defining a second signal ($I_{ptatZ}$, $V_{ptatZ}$, $f_{ptatZ}$)
- extracting a first actual temperature $T_1$ from the first signal ($I_{ptat1}$, $V_{plat1}$, $f_{ptat1}$) and a second temperature ($T_z$) from the second signal ($I_{platz}$, $V_{ptatZ}$, $f_{platZ}$)

5. (CURRENTLY AMENDED) Method as claimed in claim 4, whereby the resulting temperatures ($T_1$, $T_z$) are used for providing calibration parameters to the

chip.

6. (ORIGINAL) Method as claimed in claim 5, whereby calculating calibration parameters can be performed on-chip or off-chip.

7. (CURRENTLY AMENDED) Method as claimed in claim 4, whereby additional signal offsets ~~($I_{virtZ}$, $V_{virtZ}$, $f_{virtZ}$)~~ are provided for calculating more than two temperature points ~~($T_n$)~~ and calibrating a non linear temperature setting curve.

8. (CURRENTLY AMENDED) Method as claimed in claim 4, whereby the signal offset ~~($I_{virt}$, $V_{virt}$, $f_{virt}$)~~ is subtracted from first signal ~~($I_{ptat1}$, $V_{ptat1}$, $f_{ptan}$)~~ or added to the first signal ~~($I_{ptat1}$, $V_{ptat1}$, $f_{ptat1}$)~~ defining the second signal ~~($I_{ptat2}$, $V_{ptat2}$, $f_{ptatZ}$)~~, which is provided to the temperature extraction unit ~~(3)~~.